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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/914,631

08/30/2001

Koji Kan

16NM99181

9552

7590

04/14/2003

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EXAMINER

FETZNER, TIFFANY A

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/914,631

Applicant(s)
Koji Kan

Examiner
Tiffany Fetzner

Art Unit
2859



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 3, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 and 16-26 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7 and 16-21 is/are allowed.
- 6) ☒ Claim(s) 22 is/are rejected.
- 7) ☒ Claim(s) 23-26 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Jan 23, 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED Non-final ACTION

Drawings

1. The proposed red-ink drawing corrections to **figure 1** are approved by the examiner.
2. The remaining drawings objections from the November 2002 office action are rescinded in view of applicant's Remarks / Arguments on pages 2 and 3 of the January 30th 2003 amendment.

3. Status of claims

4. **Claims 1-3 and 8-15** are canceled as per applicant's January 30th 2003 amendment.
5. Amended **Claims 4-7** are still pending.
6. **New claims 16-26** have been added by the January 30th 2003 amendment.
7. **Claim 4 and Claim 22** were further amended by the April 3rd 2003 faxed amendment,

8. ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claim 22**, is rejected under **35 U.S.C. 102(b)** as being anticipated by **McCarthy et al.**, US patent 5,602,477.

11. With respect to **Claim 22, McCarthy et al.**, teaches, shows, and suggests: "A magnetic resonance imaging system comprising: a magnet system having a space for positioning a subject therein; (i.e. the subject is considered to be the object or sample of food that is undergoing the magnetic resonance scan) [See Figure 1, col. 5 line 65 through col. 6 line 37, col. 7 lines 5-37;].

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McCarthy et al., teaches, “a means for acquiring a magnetic resonance signal; (i.e. transmitter/receiver 28) [See Figure 1 component 28, col. 5 line 65 through col. 6 line 37, col. 7 lines 5-37] **McCarthy et al.**, teaches a “means for providing a flow of air into the space” (i.e. the air blast PVC pipe, provides the air flow to the subject / object through the NMRI device. [See of **McCarthy et al.**, col. 8 lines 63-68] **McCarthy et al.**, also teaches that “the means” (i.e. the air blast pipe)” is made from a non-magnetic or non-metallic material”, because PVC pipes, or poly vinyl chloride pipes are inherently constructed from poly vinyl chloride which is a non-magnetic or non-metallic material”. Additionally, **McCarthy et al.**, teaches that the air blast freezers deliver cold air to the subject (i.e. the object or food to be frozen) through an insulated 6m section of PVC pipe 10.2 cm. ID, with the PVC pipe continued through the center of the NMRI bore before returning to the intake of the freezer. [See **McCarthy et al.**, col. 8 lines 63-68] The examiner also notes that because the poly vinyl chloride pipes (PVC pipes) which provides the flow of air are “a non-magnetic or non-metallic material” **McCarthy et al.**, teaches and suggests that the means for air flow “avoids interference with the magnet system or the means for acquiring a magnetic resonance signal,” (i.e. transmitter/receiver 28) because use of “a non-magnetic or non-metallic material” inherently does not generate eddy currents or other sources of interference that could interfere with the magnet system or the means for acquiring a magnetic resonance signal. “a non-magnetic or non-metallic material”, fulfills applicant’s claimed limitation automatically.

McCarthy et al., teaches a “means for adjusting the position of the subject in the magnet system” (i.e. conveyor 12 of Figure 1, and the sample push rod taught in col. 9 lines 12-20) [See col. 9 lines 12-20; Figure 1, col. 8 lines 45-57]

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Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. **Claim 22** is rejected under **35 U.S.C. 103(a)** as being unpatentable over **Kubokawa et al.**, US patent 4,960,106.

15. With respect to **Claim 22**, **Kubokawa et al.**, shows, “a magnetic resonance imaging system comprising: a magnet system having a space for positioning a subject therein; [See Figure 1]. **Kubokawa et al.**, teaches and shows, “a means for acquiring a magnetic resonance signal; (i.e. transmitter/receiver 150) [See Figure 15 component 150, col. 10 lines 61-68] **Kubokawa et al.**, teaches and suggests a “means for providing a flow of air into the space” (i.e., antenna tube 163 provides the air flow to the subject / object through the NMR endoscopic device when the switching cock 143 is switched to the air side.) [See **Kubokawa et al.**, col. 9 lines 52-55; col. 10 lines 6-17; col. 11 lines 12-15; col. 12 lines 29-34; col. 13 lines 35-54; col. 14 lines 1-5; col. 22

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lines 38-41] **Kubokawa et al.**, also teaches that “the means is made from a non-magnetic or non-metallic material”, [See **Kubokawa et al.**, col.10 lines 13-17] **Kubokawa et al.**, also teaches and suggests that the means for air flow “avoids interference with the magnet system or the means for acquiring a magnetic resonance signal,” (i.e. transmitter/receiver 150) because use of “a non-magnetic or non-metallic material” inherently does not generate eddy currents or other sources of interference that could interfere with the magnet system or the means for acquiring a magnetic resonance signal. “a non-magnetic or non-metallic material”, fulfills applicant’s claimed limitation automatically.

16. **Kubokawa et al.**, lacks directly teaching a “means for adjusting the position of the subject in the magnet system”. However, it would have been obvious to one of ordinary skill in the art, at the time that the invention was made that the ability to adjust the position of the subject in the magnet system”, is within the scope of the **Kubokawa et al.**, reference because **Kubokawa et al.**, teaches the examinee is mounted on the bed 15 and a static magnetic field is given to the examinee by the NMR apparatus [See col. 7 lines 23-26] and conventionally when a patient, subject, or examinee is placed into an NMR apparatus via a patient bed, the patient bed is retractable into and out of the device, in order to ensure that the part of the patient undergoing the imaging scan is centered within the device. Additionally, figure 2 of **Kubokawa et al.**, shows the end of the endoscope within the patient being centered within the device, therefore it would have been obvious to one of ordinary skill in the art, at the time that the invention was made that the bed 15 upon which examinee 16 is mounted, is also adjustable (i.e. retractable) so that the patient and the tip of the endoscope within the patient, that are to be imaged are brought inside

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the magnetic resonance device, to the magnetic isocenter. **Kubokawa et al.**, also teaches rearranging the location of the endoscope within the patient via a motor 336 that is a part of the endoscope device to reposition the endoscope within the patient if necessary. [See col. 18 line 64 through col. 19 line 41] It also would have been obvious to one of ordinary skill in the art, at the time that the invention was made to modify the teaching of **Kubokawa et al.**, to include a “means for adjusting the position of the subject in the magnet system” because if patient bed 15 were not retractable, it would be extremely difficult for the patient to enter or exit the device, and difficult to ensure that the tip of the endoscope, within the patient was at the magnetic isocenter of the device.

17. *Allowable Subject Matter*

18. **Twice Amended claim 4** and its corresponding dependent **claims 5-7**, and **16-21** are considered to be allowable over the prior art of record because the prior art does not teach or suggest the novel and nonobvious combination of “a magnetic resonance imaging device comprising: means for signal acquisition that acquires a magnetic resonance signal; a space accommodating a subject for imaging; a fluid motor rotating by fluid flow and disposed adjacent to the space; and rotating vanes driven by the fluid motor that forces air into the space, wherein the fluid motor and the rotating vanes do not cause electrical interference with the device.”

19. **Claim 23 and its requisite dependent claims 24-26** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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20. The **prior art made of record** and not relied upon is considered pertinent to applicant's disclosure.

a) **Hair, Jr. et al.**, US patent 3,983,715 which shows a hydraulic fluid motor being used to operate a fan and compressor to a compartment housing a subject.

B) **Dietz** US patent 5,484,850 an air providing means used with a magnetic resonance imaging device.

C) **Goscenski, Jr.** US patent 4,179,888 which provides a hydraulic fluid motor to rotate a fan, without the fluid flow being affected.

D) **Lemelson** US patent 5,946,220 which shows a fan used to cool a computer processing device.

E) **Kubokawa et al.**, US patent 5,035,231 which shows another version of an endoscopic device used in conjunction with MRI to both image and provide air to a patient, while the device is inside the patient.

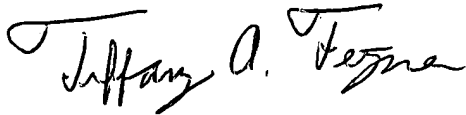
Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tiffany Fetzner** whose telephone number is **(703) 305-0430**. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Diego Gutierrez**, can be reached on **(703) 308-3875**. The fax phone number for the organization where this application or proceeding is assigned is **(703)305-3432**.

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23. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0956.



TAF

April 7, 2003



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800